

## Sensor Transmitter Module STM 110 and STM 11xC

The extremely power saving RF transmitter module STM 110 of EnOcean enables the realization of wireless and maintenance free sensors. Power supply is provided by a small solar cell. An integrated energy store allows unrestricted functionality for several days in total darkness.

Three 8 bit A/D converter inputs and 4 digital inputs facilitate multifunctional detector systems, based on application specific passive sensing components. This allows easy and comfortable monitoring of position, temperature, illumination, pressure, etc. - or simply supervising voltages or currents.

The module provides a user configurable cyclic wake up (every 1, 10 or 100 sec.). After wake up a radio telegram (input data, unique 32 bit sensor ID, checksum) will be transmitted in case of a change of any digital input value compared to the last sending or in case of a significant change of measured analogue values (different input sensitivities can be selected). In case of no relevant input change a redundant retransmission signal is sent after a user configurable number of wake-ups to announce all current values. In addition a wake up via switch over of two wake pins is provided.

### Features overview

<b>Power Supply</b>	solar cell or external (2.2-5.0 V)
<b>Antenna</b>	pre-inst. 9 cm (STM110) / 15 cm (STM110C) whip antenna; 50Ω output pin (STM112C)
<b>Frequency / Transmission power</b>	868.3 MHz (STM 110) or 315.0 MHz (STM 11xC) / max. 10mW
<b>Data rate / Modulation type</b>	125 kbps / ASK
<b>Start up time with empty energy storage</b>	<10 min @ 100 lx
<b>Operation time in total darkness</b>	>60h <sup>1)</sup>
<sup>1)</sup> storage filled @ 1000lx, transmission every 17 min (average), 100s wake-up, temperature 25°C, Goldcap formatted	
<b>Transmission range</b>	~300m free field
<b>Input channels</b>	4 x digital inputs, 3 x analog inputs (8 bit resolution)
<b>Ext. power supply output</b>	3.0 V ±3%, 1mA max., ~2.6ms (during wake-up time)
<b>Ext. voltage reference output</b>	2.05V ±3%, 1mA max., ~2.6ms (during wake-up time)
<b>Transmitting indication output (LED)</b>	3.0V ±3%, 2mA max., 3 x 1.2 ms within 40ms
<b>Dimensions of discrete solar cell</b>	13 x 35 mm
<b>Dimensions of PCB</b>	21 x 40 x 9 mm (incl. energy store and wiring pins)
<b>Operating temperature</b>	- 25 up to + 65 °C



The STM 110 module serves the 868 MHz air interface protocol of EnOcean. Together with the receiver modules RCM120 and RCM 130 this module can be easily implemented into operation and control units for realization of various application specific system solutions.

A 315 MHz variant – STM 11x C – is also available.

STM 110 is CE certified and conforms to the R&TTE EU-Directive on radio equipment. STM 11xC is conform to FCC part 15.231 and RSS-210 for use in USA and in Canada.

Type	Ordering Code
STM110	S3001-D110
STM110C	S3031-D110
STM112C	S3031-D112